



Types of Biosolids Land Application Permits and Vector Controls

Office of Land Quality

(317) 232-8603 • (800) 451-6027

www.idem.IN.gov

100 N. Senate Ave., Indianapolis, IN 46204

Land Application Permits

The use of biosolids, some industrial waste products and pollutant-bearing water as a soil amendment or as fertilizer requires a permit from IDEM.

Three types of land application permits that are issued by OLQ:

1. Site specific permits identify the land on which the materials or liquids will be applied.
2. Nonsite-specific permits require higher quality waste materials and identify the counties in which the biosolids or industrial waste products will be land applied.
3. Hybrid permits are a type of nonsite-specific permits that both identifies land on which the biosolids or industrial waste products is applied, along with counties in which the material will be approved for land application.

Additionally, dewatered, high quality biosolids and industrial waste products may be under a Marketing and Distribution permit issued under Rule 5 of 327 IAC 6.1.

Construction of storage structures for biosolids or industrial waste products to be used for land application is regulated by OLQ and may require either a notification or an approval to construct through submission of a construction permit application. The construction of storage lagoons at land application sites does not require a Wastewater Facilities Construction Permit from IDEM; however, it will require prior approval from the land application program. Regulations for such storage lagoons are provided in the Indiana Administrative Code under [327 IAC 6.1-8](#).

The land application management practices described in the Indiana Administrative Code under [327 IAC 6.1](#).

Land application permits are not issued for animal manures, hazardous waste materials, high specific gravity materials such as sand, gravel or cinders, or solid materials that are screened out during the wastewater treatment process. These materials are regulated by other programs.

What Type of Biosolids Land Application Permit Should I apply for?

Permit Options

Permit Option	Site Restrictions (refer to 327 IAC 6.1-4 through 6)	Pollutant Limits	Pathogen Requirements	Vector Attraction Reduction Requirements
Marketing and Distribution <i>(limited restrictions on use by the general public)</i>	None	Exceptional Quality Concentrations	Class A	One of Options 1 through 8 <i>(see question 2)</i>
Site-Specific Land Application <i>(application limited)</i>	Standard	Ceiling Concentrations	Class B	One of Options 1 through 10 <i>see question 2)</i>

<i>to sites listed on permit)</i>				
Non-site-specific Land Application (<i>application limited to farmland in specified counties</i>)	Standard plus increased setback to residences	Exceptional Quality Concentrations	Class B	One of Options 1 through 10 <i>see question 2)</i>
Hybrid Land Application (<i>land application limited to farmland in specified counties and some sites are pre-approved and listed in permit</i>)	Standard plus increased setback to residences	Exceptional Quality Concentrations	Class B	One of Options 1 through 10 <i>see question 2)</i>

Vector Attraction Limitations

Pathogen and Vector Attraction Reduction Limitations

Options	Class A Pathogen Reduction Alternatives	Class B Pathogen Reduction Alternatives	Vector Attraction Reduction Options
1	Use one of four time-temperature regimens & monitor fecal coliform.	Test for fecal coliform density as an indicator for all pathogens.	Reduce the mass of volatile solids by a minimum of 38 percent.
2	Meet specific pH, temperature and air-drying requirements & monitor fecal coliform.	Biosolids are treated in one of the Processes to Significantly Reduce Pathogens (PSRP): 1) Aerobic Digestion 2) Air Drying 3) Anaerobic Digestion 4) Composting 5) Lime Stabilization	Demonstrate vector attraction reduction with additional anaerobic digestion in a bench-scale unit.
3	Demonstrate that the process can reduce enteric viruses and viable helminth ova. Maintain operating conditions used in demonstration & monitor fecal coliform.	Biosolids are treated in a process equivalent to one of the PSRPs, as determined by the permitting authority.	Demonstrate vector attraction reduction with additional aerobic digestion in a bench scale-unit.
4	Test for pathogens- fecal coliform, enteric viruses and viable helminth ova.		Meet a specific oxygen uptake rate for aerobically treated biosolids.
5	Biosolids are treated in one of the Processes to Further Reduce pathogens (PFRP) & monitor fecal coliform: 1) Composting 2) Heat Drying 3) Heat Treatment		Use aerobic processes at greater than 40°C (average temperatures 45°C) for 14 days or longer.

	<p>4) Thermophilic Aerobic Digestion</p> <p>5) Beta Ray Irradiation</p> <p>6) Pasteurization</p>		
6	Biosolids are treated in a process equivalent to one of the PFRPs, as determine by the permitting authority, & monitor fecal coliforms.		Add alkaline materials to raise the pH under specified conditions.
7			Reduce moisture content of biosolids that do not contain unstabilized solids from other than primary treatment to at least 75 percent solids.
8			Reduce moisture content of biosolids with unstabilized solids to at least 90 percent.
9			Inject biosolids beneath the soil surface within a specified time, depending on the level of pathogen treatment.
10			Incorporate biosolids applied to the surface within specified time periods after application.